

ACCESSION NR: AT4012867

is shorter than the delonization time, a pulse may proceed through the plasma channel created in the gap by the preceding pulse rather than through the liquid dielectric, thus creating the effect of a stationary arc discharge. For proper evaluation of the pulse frequency the gap must be considered as a nonlinear circuit element which determines the loading of the pulse generator. In the author's previous work ("Fizicheskiye svoystva iskrovogo pro-mezhutka kak nagruzki generatora", "Problemy \* elektricheskoy obrabotki materialov", Moscow, 1962), it was established by application of paired pulses to the gap that for pulses with energies of the order of several tenths of a joule and durations of the order of  $10^{-5}$  sec., the total electrode erosion is independent of the duty ratio if this ratio exceeds 4 to 5. The new method is based on evaluation of the repetitive discharge firing curve which relates the breakthrough potential required to obtain another discharge through the gap and the time elapsed from the moment when the preceding discharge current pulse has ended. The curve is obtained by applying to the gap a high-voltage (1000v) pulse followed by a variable-amplitude, variable-delay, probing pulse. For any fixed amplitude of the probing pulse and the delay between the high-voltage pulse and the probing pulse, the electrode spacing is varied at a constant rate and the gap voltage is photographed from the face of an oscilloscope. Statistical processing of many such photographs yields the desired set of curves, shown in

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Figure 1 of the Enclosure. For proper electrode spacing, each curve consists of two parts, one with a steep slope and one with very gentle slope. The steep portion is connected with rapid deionization of gases filling the ensuing gas bubble in the gap after each discharge. The gentle portion of the curve is connected with gradual removal of fine metallic particles suspended in the liquid dielectric in the vicinity of the gap and gradual restoration of the dielectric stability in the gap. It is concluded that for rectangular discharge pulses the minimum allowable period which will prevent excessive generator loading is equal to the time interval covered by the steeply rising portion of the repetitive discharge firing curve. Orig. art. has:

ASSOCIATION: Tsentr, n.-i. lab elektr. obrabotki metallov, AN SSSR (Central Scientific Research Laboratory for Electrical Metal Finishing, AN SSSR)

SUBMITTED: 00

DATE ACQ: 13Feb64

ENCL: 01

SUB CODE: MM

NO REF SOV: 004

OTHER: 000

Card 3/4

ACCESSION NR: AT4012867

Breakthrough gap  
voltage  $U_{bt}$ , volts

ENCLOSURE: 01

Electrode  
separation,  
in microns

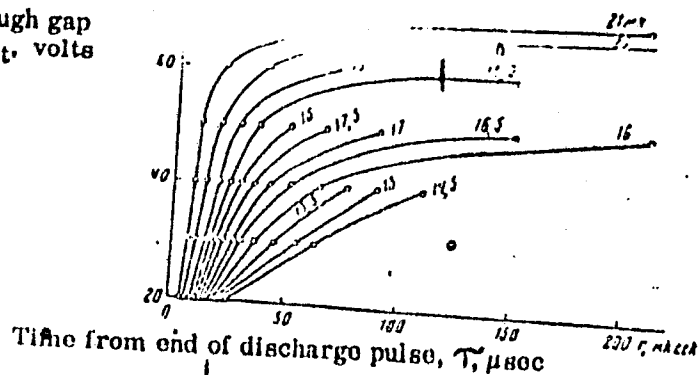


Figure 1. Curves of repetitive discharge firing for various electrode spacings. Energy of pulse = 0.04 joule, duration of pulse = 4  $\mu$ sec, capacitance = 0.002 f (copper electrodes immersed in kerosene).

Card 4/4

Topic 1A21: electroerosive machining, electroic spacing

Author Certificate introduced in



USSR

ACCESSION NR: AP3007446

9/0286/63/000/009/0037/0038

AUTHOR: Kruglov, A. I.

TITLE: Pulse Generator for Electric Spark Machining of Current-Conductive Materials

SOURCE: Byul. izobret. i tovarn. znakov, no. 9, 1963, 37-38

TOPIC TAGS: electric-spark machining, current-conductive material, pulse generator

ABSTRACT: 1. Pulse generator for electric spark machining of current-conductive materials, in which the circuit for forming working pulses contains spark gaps, a charge inductance, a reservoir capacitor, a commutative gas-discharge tube, and a shunted diode of reverse polarity connected to a DC voltage source.

Distinguishing feature: In order to increase efficiency, eliminate overloads, of the power source and the gas-discharge tube, and also to cut down on power dispersed in the diode during short circuiting, a choke has been connected in series with the diode.

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ACCESSION NR: AP3007446

2. The device as per paragraph 1. Distinguishing feature: In order to raise the stability, and to eliminate the effect of interwinding capacitance, of the charge inductance, the latter is connected in parallel to the resevoir capacitor.

ASSOCIATION: none

SUBMITTED: 05Sep61

DATE ACQ: 14Oct63

ENCL: 01

SUB CODE: GE, MD

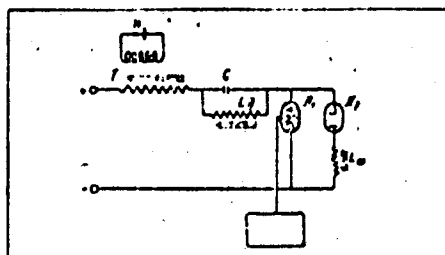
NO REF SOV: 000

OTHER: 000

Card 2/3

ACCESSION NR: AP3007446

ENCL: 01



T. pulse transformer;  $U$  - spark gap;  $L_0$  - charge inductance; G. reservoir capacitor;  $\Lambda_1$ . commutative gas-discharge tube (thyatron);  $L_{II}$ . choke;  $\Lambda_2$ . shunting diode.

Card 3/3



ACC NR: AR6016965

SOURCE CODE: UR/0081/65/000/024/G030/G031

AUTHOR: Kostromin, A. I.; Kruglov, A. I.

TITLE: Coulometric determination of iron and aluminum impurities in selenium

SOURCE: Ref. zh. Khimiya, Abs. 24G219

REF SOURCE: Uch. zap. Kazansk. un-t, v. 124, no. 3, 1965, 173-178

TOPIC TAGS: metal chemical analysis, amperometric titration

ABSTRACT: In determining Fe and Al in Se,  $Fe^{2+}$  is determined by direct coulometric titration (CT) with electrogenerated  $Br_2$  on a background of 0.2M KBr + 0.1 N  $H_2SO_4$ . Al is precipitated with 8-hydroxyquinoline (I), the precipitate is dissolved in acid and I is titrated with  $Br_2$ . The CT end point is determined amperometrically with 2 indicator electrodes under 200 mv potential. Background impurities are pretitrated before the CT. In determining Fe in metallic Zn the sample is dissolved in HCl (1:1), the solution is diluted to a determined volume, and an aliquot portion is titrated. In determining Fe in Se, the sample (4 - 0.1 g Fe) is dissolved in a quartz dish in 1 - 2 ml concentrated  $HNO_3$  and evaporated to dryness for 30-40 minutes on a molten  $KNO_3$  (333°) bath. The residue is dissolved in 1 ml 7 N  $H_2SO_4$ , metallic zinc is added to the

Card 1/2

ACC NR: AR6016965

solution, and after its dissolution, the solution is diluted to a determined volume. In determining 0.04 - 0.14 % Al in Se the latter is separated by sublimation as described above, the residue is dissolved in dilute  $H_2SO_4$ , pH is adjusted to 9.55, impurities are extracted three times with a 1% solution of sodium diethyldithiocarbamate in  $CHCl_3$ , Al is extracted with benzene as a complex with I, benzene is evaporated, the residue is dissolved, and CT is carried out. V. Mirkin. [Translation of abstract].

SUB CODE: 07, 14

Card 2/2 LC

ACC NR: AP6026317 (A, N) SOURCE CODE: UR/0407/65/000/003/0019/0023

AUTHOR: Kruglov, A. I. (Moscow); Strygin, E. M. (Moscow)

ORG: none

TITLE: Investigation of metal erosion in air

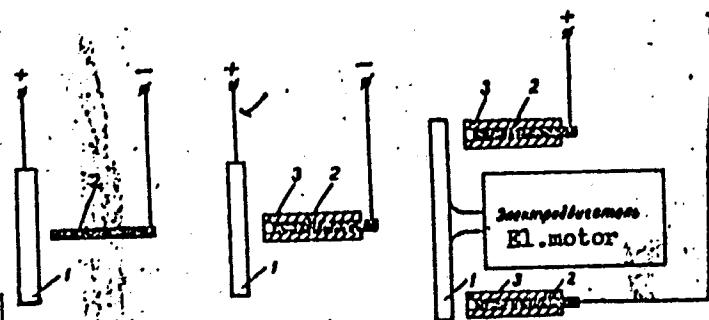
SOURCE: Elektronnaya obrabotka materialov, no. 3, 1965, 19-23

TOPIC TAGS: erosion, electrospark machining

ABSTRACT: Some experimental data on erosion of steel electrodes by capacitor impulse discharge in air is reported. Two series of experiments were conducted: (1) Steel specimen 1 (see figure, left) was connected to the positive end of a relaxation generator; copper wire 2 was set at 0.8—1 mm from the specimen; the discharge took place when the voltage reached a high enough value; (2) The same copper wire 2 was placed in a quartz or porcelain tubing 3 (see figure, center) protruding beyond the end of the wire by 0.1—0.2 mm. It was found that in the second case, a much greater erosion took place, particularly with thinner tubing. The effect of relative motion of electrodes on erosion was investigated on a rotating disk (made from U-8 steel)

Card 1/2

ACC NR. AP6026317



installation (see figure, right). To exclude the driving motor (1200—20000 rpm) and its bearings from the electrical circuit, a two spark-gap arrangement was used; voltage, 2.5 kv; gap, 0.7 mm. The above experiments corroborated the well-known fact that impulse erosion in air is much smaller than that in a liquid. This is

explained by a much higher speed of expansion of the discharge channel in air. A qualitative interpretation of the processes transpiring at the electrodes is offered. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 13, 09 / SUBM DATE: none / ORIG REF: 003

Card 2/2

SOV/137-58-12-24908

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 128 (USSR)

AUTHORS: Kochergin, V. P., Nimvitskaya, T. A., Kruglov, A. N.

TITLE: Physicochemical Properties of Halide Electrolytes (Fiziko-khimicheskiye svoystva galogenidnykh elektrolitov)

PERIODICAL: Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chernykh metallov, 1957, Nr 3, pp 160-168

ABSTRACT: The composition of the electrolytes (in mole/liter) is:  $\text{SnCl}_2$  0.25 + NaF 0.9 + phenol 0.05 + HCl 3-4 g/liter + gelatin 1 g/liter (I), and  $\text{SnCl}_2$  0.25 + NaF 0.9, HCl 3-4 g/liter + gelatin 1 g/liter, technical fraction from the distillation of coal tar 10 g/liter (II). The stability of solutions I and II in the process of electrolysis is satisfactory, the decrease in the concentration of  $\text{F}^-$  and free HCl which was observed is related to the precipitation of NaF and to complex hydrolysis reactions. This does not, however, bring about any decrease in the Sn content of the solution. Physicochemical properties of both solutions are adduced.

V. S.

Card 1/1

KRUGLOV A. N.

AUTHORS: Kruglov, A. N., Myzova, S. K., Korobova, I. P. 57-40-31/33

TITLE: On the Dependence of the Electric Erosion of Metals on Pulse Energy (O zavisimosti elektricheskoy erozii metallov ot energii impul'sa) (Letter to the Editor)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. '27, Nr 10, pp. 2421-2422 (USSR)

ABSTRACT: In 1947 B. N. Zolotykh stated that the erosion of metals under the influence of current impulses in a liquid dielectric medium, with otherwise equal conditions, is directly proportional to impulse energy. The experiments, however, showed in a number of cases a deviation from the linear law. The analysis showed that this deviation exceeds tolerable measuring errors. This is seen especially clear if one of the electrode metals possesses ferromagnetic properties. The authors show that the displacement of the maximum of the curve  $\delta = f_1(t_1) | W_F = \text{const}$  in the case of the

increase of impulse in the direction of an increase of the duration of impulse, proves the increasing of the density of the energy reaching the electrode from the channel. This is most abrupt if one of the electrodes is a ferromagnetic material. And just in this case the greatest deviation from the linear dependence of the erosion on the impulse duration occurs. The latter proves the essential influence of the magnetic field of the current on

Card 1/2

On the Dependence of the Electric Erosion of Metals on Pulse Energy. 57-10-31/33

the formation and on the measurements of the cathode and anode spots in the case of an impulse discharge of the type investigated  $\gamma$ -erosion,  $t_i$  - duration of impulse,  $W_F$  - the energy emitted in the spark gap. There are 1 illustration and 4 Slavic references.

SUBMITTED: March 7, 1957

AVAILABLE: Library of Congress

Card 2/2

SOV/156-59-1-17/54

5(2)

AUTHORS:

Kruglov, A. N., Kochergin, V. P.

TITLE:

On the Complex Compounds of the Ions of Bivalent Tin With Sodium and Potassium Fluoride (O kompleksnykh soyedineniyakh ionov dvukhvalentnogo olova s ftoridami natriya i kaliya)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 70 - 74 (USSR)

ABSTRACT:

The complex formation of bivalent tin in a sulfuric acid solution is known. In the present work halogen salt solutions of tin are investigated, especially in the presence of sodium or potassium fluoride. For crystallizing the solution the following substances were used:  $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ , NaF, KF, HCl,

distilled phenol and gelatin of the type "ch.d.a.". (In tinning phenol and gelatin are added as surface-active substances which promote the formation of dense tin covers). The solutions were investigated by the potentiometric method at various temperatures; moreover, the specific conductivity and the density of the solutions were measured. The conducti-

Card 1 '2



On the Complex Compounds of the Ions of Divalent Tin  
With Sodium and Potassium Fluoride

SOV/156-59-1-17/54

vity minima found (Diagrams, Fig 2) are indicative of complex compounds the composition of which only depends on the HCl content of the solution but not on temperature and the phenol or gelatin content. The tin ions accumulate more  $F^-$  ions in the presence of KF than in the presence of NaF. The potentiometric investigation showed a great number of possible complex compounds, according to the concentration of hydrochloric acid. Since  $F^-$  ions have a considerable polarizing effect they form more stable complex anions than  $SO_4^{2-}$  ions. It may be expected that in tin-plate production

$H_2SO_4$  solutions will be displaced by halogen salt solutions.

There are 4 figures, 2 tables, and 16 references, 12 of which are Soviet.

ASSOCIATION:

Kafedra neorganicheskoy khimii Ural'skogo gosudarstvennogo universiteta im. A. M. Gor'kogo (Chair of Inorganic Chemistry of Ural State University imeni A. M. Gor'kiy)

SUBMITTED:

January 24, 1958

Card 2/2

SOV/110-59-2-19/21

AUTHORS: Zektser, D.M. and Kruglov, A.N. Engineers

TITLE: Reduce the Range of Relays Type KDR (Sokratit'  
nomenklaturu rele tipa KDR)

PERIODICAL: Vestnik Elektropromyshlennosti, 1959, Nr 2, pp 76-77 (USSR)

ABSTRACT: Because of its simplicity and reliability direct current relay type KDR has come to be widely used. It is evident from the manufacturers' catalogue that there exist at least 1,135 different variants of this type of relay. Still other types are required by other organizations not concerned with this particular catalogue. Because of this great range of different types it is very difficult to organize mass production of these relays on a conveyor. In point of fact, in 1957 only 200 of the variants of the relay were actually ordered and in 1958, 300, the extension of the range mainly resulting from publication of the catalogue.

Card 1/2 Most of the orders were covered by a very few types of relay and many of the orders required only a small

Reduce the Range of Relays Type KDR SOV/110-59-2-19/21  
number of relays. The number of different variants  
of this type of relay can be very easily cut down.

Card 2/2

18 8310

S/081/61/000/001/007/017  
A005/A105

Translation from: Referativnyy zhurnal, Khimiya, 1961, No. 1, p. 295, # 11173

AUTHORS: Kruglov, A.N., Kochergin, V.P.

TITLE: The Metal Corrosion in Halogeneous Solutions

PERIODICAL: "Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chern. metallov",  
1959, No. 7, pp. 83 - 85

TEXT: The authors showed by an investigation of the corrosion resistance of steels of different grades, Cu, and polyvinyl plastics in a halogeneous solution, composition (in g/l):  $\text{SnCl}_2$  63, KF 55, NaF 34, HCl 2-3, gelatin 1, and phenol 5, that polyvinyl plastics, St 1X1819 (St 1Kh18N9) and ST 1X17H3C8A3 (St 1Kh17N3C8Az) have high resistance to corrosion. VA

From the authors' summary

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

5(2)

SOV/80-32-3-20/43

AUTHORS: Kruglov, A.N., Kochergin, V.P.

TITLE: Electrolytic Tinning of Metal Plates in Halide Solutions Containing Fluorides of Alkali and Alkali-Earth Metals (Elektroliticheskoye luzheniye zhesti iz galgenidnykh rastvorov, so-derzhashchikh ftoridy shchelochnykh i shchelochnozemel'nykh metallov)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 582-588 (USSR)

ABSTRACT: The solubility of the fluorides of lithium, potassium, magnesium, calcium, strontium and barium in a solution of  $\text{SnCl}_2$  (0.21 mole/l),  $\text{HCl}$  (3-4 g/l), and gelatine (1 g/l) is many times higher than in a 0.5 n solution of  $\text{HCl}$ . The addition of surface-active substances increases the cathode polarization during electric precipitation of tin. The fluorides may be arranged according to their effect in the following rising series: Mg, Ca, Sr, Ba, Li, Na, K. Organic cation additions, like leuco-tron B, have a higher effect on polarization than molecular additions, like phenol. The cathode precipitate of tin with a thickness of 1 - 1.5  $\mu$  at a current density of 20 - 40 a/dm<sup>2</sup>

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SOV/60-32-3-20/43

Electrolytic Tinning of Metal Plates in Halide Solutions Containing Fluorides of Alkali and Alkali-Earth Metals

and a temperature of 50°C forms a smooth surface. From halide solutions with additions of organic substances and in the presence of KF tin precipitates of a thickness of 3.5  $\mu$  are formed. There are 5 graphs, 1 table and 22 references, 19 of which are Soviet and 3 English.

SUBMITTED: September 13, 1957

Card 2/2

KRUGLOV, A. N., Cand Tech Sci -- "Study of electrode processes and properties of halide electrolytes, <sup>applicable to</sup> ~~applied in~~ the <sup>relating of</sup> ~~tinning~~ cold-rolled sheet iron." Sverdlovsk, 1961. (Min of Higher and Sec Spec Ed RSFSR. Ural Polytech Inst in S. M. Kirov) (KL, 8-61, 245)

- 256 -

KRUGLOV, A.N., kand.tekhn.nauk; KOCHERGIN, V.P., kand.khimicheskikh nauk

Tinning of cold-rolled sheet steel in sulfuric acid solutions  
using a reverse current. Sbor. trud. TSNIICM no.28:101-108  
'62. (MIRA 15:11)

(Sheet steel) (Tin plating)



KOCHERGIN, V.P., kand.khimicheskikh nauk; KRUGLOV, A.N., kand.tekhn.nauk

Hydrogen supertension on tin in a sulfuric acid solution containing  
sodium fluoride. Sbor. trud. TSNIICHM no.28:118-120 '62.

(MIRA 15:11)

(Tin plating)

KOCHERGIN, V.P.; KRUGLOV, A.N.

Kinetics of the electrodeposition of tin by reversed current.  
Zhur.fiz.khim. 37 no.8:1682-1688 Ag '63. (MIRA 16:9)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov  
i Ural'skiy gosudarstvennyy universitet, Sverdlovsk.  
(Tin plating)

KHUGLOV, A.N.

Effect of trivalent iron on the process of cathodic pickling  
of cold rolled metal. Stal' 25 no.2:188-189 R 165.

(MIRA 18:3)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.

L 0/156-6/ EWP(d)/EWP(m)/EWP(w)/EWP(j) LIP(C) WW/EM/RM

ACC NR: AR6011360

(A, N)

SOURCE CODE: UR/0277/65/000/011/0029/0029

AUTHORS: Delle, V. A.; Noskin, A. V.; Kruglov, A. N.

38  
B

TITLE: Dynamic strength of glass-reinforced plastics during high-speed local loading

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruksii i raschet detaley mashin. Gidropriwod, Abs. 11.48.245

REF SOURCE: Tr. Leningr. korablestroit. in-ta, vyp. 46, 1964, 3-8

TOPIC TAGS: fiber glass, impact strength, dynamic strength, material property

ABSTRACT: The results of experimentally determining the dynamic strength of fiber glass plates (6 mm thick) under concentrated simultaneous action of a hydraulic impact and a shock wave are presented. The evaluation criterion for the dynamic strength of the plate was the minimum amount of explosive causing nominal failure (penetration or damage to the surface of the tested material). For purposes of comparison, analogous experiments were performed with steel SKhL-4 and alloy AMg6T plates. The data show that fiber glass exhibits a low resistance to high-speed, local, dynamic loads. This is in sharp contrast with metallic construction materials which are used in domestic ship construction. Bibliography of 9 titles. [Translation of abstract]

SUB CODE: D 11

Card 1/1 496

UDC: 678.5:677.521

KRUGLOV, A. N.

Kruglov, A. N. - "An investigation of pneumatic transport equipment for grain",  
Trudy Vsesoyuz. nauch.-issled. in-ta zerna i produktov ego pererabotki, issue  
16, 1949, p. 107-29.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 1, 1949).

KRUTOV, A. N.

"On an Investigation of the Specific Consumption of Power by Pneumatic Installations for Unloading Grain From River Vessels Into Elevators." Thesis for Cand. Technical Sci. Sub 10 May 50, Moscow Technological Inst of Food Industry

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950  
From Vechernyaya Moskva, Jan-Dec 1950

KRUYLOV, A. kand.tekhn.nauk; KREYMERMAN, G.,kand.tekhn.nauk

Low-capacity pneumatic grain-handling equipment. Muk.-elev.prom.  
24 no.2:10-13 P '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov  
yego pererabotki.  
(Pneumatic-tube transportation)

PAL'TSEV, V., kand.tekhn.nauk; MALIS, A., kand. tekhn. nauk; KRUGLOV, A.,  
kand.tekhn. nauk.

High-efficiency cyclone dust collectors. Muk.-elev. prem. 24 no.12:  
9-12 D '58. (MIRA 12:1)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i  
produktov ego pererabotki.  
(Dust collectors)



KRUGLOV, A., kand.tekhn.nauk.

Comparative testing of pneumatic grain-handling machines used at flour mills. Muk.-elev. prom. 25 no.10:20-23 0 '59. (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.

(Pneumatic-tube transportation)  
(Flour mills--Equipment and supplies)

PAL'TSEV, Vladimir Semenovich, kand.tekhn.nauk; MALIS, Abram Yakovlevich,  
kand.tekhn.nauk; KHUGLOV, Alfey Nikolayevich, kand.tekhn.nauk;  
GEL'MAN, D.Ya., red.; FREGER, D.P., red.izd-va; GVIRTIS, V.L.,  
tekhn.red.

[Pneumatic transportation of flour] Aerosol'transport muki.  
Leningrad, 1960. 55 p. (MIRA 14:2)  
(Pneumatic-tube transportation)  
(Flour mills--Equipment and supplies)

BENDERSKIY, S.N., kand.tekhn. nauk; BURSIAI, V.R., prof., kand. tekhn. nauk; VASIL'YEV, P.N., inzh.; DORFMAN, E.Ye., inzh.; ZHURAVLEV, V.F., kand. tekhn. nauk; KESTEL'MAN, V.N., inzh.; KRUGLOV, A.N., dots., kand. tekhn. nauk; KUKIENYY, A.A., dots., kand.tekhn. nauk; LEVACHEV, N.A., dots., kand. tekhn. nauk; LEYKIN, A.Ya., inzh.; NAREMSKIY, N.K., dots., kand. tekhn. nauk; PLATONOV, P.N., prof., doktor tekhn. nauk; SOKOLOV, A.Ya., prof., doktor tekhn. nauk; KUTSENKO, K.I., kand. tekhn. nauk, dots., retsenzent; VEREMEYENKO, Ye.I., inzh., retsenzent; KOVTUN, A.P., inzh., retsenzent; SEMENYUK, A.I., retsenzent; KASHCHEYEV, I.P., inzh., retsenzent; PAL'TSEV, V.S., kand. tekhn. nauk, retsenzent; KHMEL'NITSKAYA, A.Z., red.

[Conveying and reloading machinery for the overall mechanization of the food industries] Transportiruiushchie i peregruzochrye mashiny dlia kompleksnoi mekhanizatsii pishchevykh proizvodstv. Moskva, Pishchevaia promyshlennost', 1964. 759 p. (MIRA 18:3)

(Continued on next card)

BENDERSKIY, S.N.— (continued). Card 2.

1. Odesskiy tekhnologicheskiy institut imeni M.V.Lomonosova (for Kutsenko, Naremskiy, Veremeyenko, Kovtun).
2. Starshiy ekspert Upravleniya po avtomatizatsii i oborudovaniyu dlya pishchevoy promyshlennosti Gosudarstvennogo komiteta po mashinostroyeniyu pri Gosplane SSSR (for Semenyuk).
3. Glavnyy mekhanik Gosudarstvennogo instituta po proyektirovaniyu predpriyatiy mukomol'nokrupyanoy i kombikormovoy promyshlennosti i elevatorno-skladskogo khozyaystva (for Kashcheyev).
4. Zaveduyushchiy laboratoriyey Vsesoyuznogo nauchno-issledovatel'skogo instituta zerna i produktov ego pererabotki (for Pal'tsev).

AKOP'YAN, A.A., starshiy prepodavatel'; ~~KRUSLOV~~ A'S., starshiy prepodavatel';  
PLAVINSKIY, P.I., starshiy prepodavatel'.

Basic and determining problems in manufacturing instruments.  
Priborostroenie no.10:19-20 O '57. (MIRA 10:11)

1. LIAP

(Instrument industry) (Automatic control)

KRUGLOV, A.S., inzhener

Modern electric instruments for measuring surface smoothness.  
[Izd.] LONITOMASH no.34:281-299 '54. (MLRA 8:10)

1. Leningradskiy institut aviatsionnogo priborostroyeniya.  
(Surfaces (Technology))

SOV/112-59-2-3112

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 125 (USSR)

AUTHOR: Kruglov, A. S., and Monakov, A. K.

TITLE: A Device for Automatic Checking of Short-Circuited Turns in a Rotor Winding (Ustroystvo dlya avtomaticheskogo kontrolya korotkozamknutykh vitkov v obmotke rotora)

PERIODICAL: Tr. Leningr. in-t aviats. priborostr., 1958, Nr 20, pp 33-45

ABSTRACT: Bibliographic entry.

Card 1/1

S/112/59/000/014/035/085  
AO52/AC01

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, No. 14, pp. 151-152, # 29649

AUTHOR: Kruglov, A.S.

TITLE: An Analysis of Deficiencies of Electrodynamic Profilometers<sup>14</sup>

PERIODICAL: Tr. Leningr. in-t aviats. priborostr., 1958, No. 20, pp. 46-54

TEXT: It is pointed out, the basic fundamental deficiency of electrodynamic profilometers is the dependence of their indications on the speed of the feeler movement. The causes of this dependence are analyzed. The second deficiency is a wrong relation between the frequency of free oscillations of the movable part of the pickup and the frequency of forced oscillations. For instance, when measuring clean surfaces the natural frequency of the movable part of the pickup of the KV device is 7-10 times less than the forced frequency leading to the loss of contact between the feeler and the investigated surface, or, when the pressure of the feeler on the surface increases, to a damage of the sur-

Card 1/2



S/112/59/000/014/035/085  
A052/A001

An Analysis of Deficiencies of Electrodynamic Profilometers

face and to a lower accuracy of indications. The third deficiency is a high electric time constant of the measuring circuit. The mentioned deficiencies condition the error of indications on clean surfaces (9th class and higher) of 40-50%.

A.N.K.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

KRUGLOV, A. S.: Master Tech Sci (diss) -- "Investigation of methods of graduating feeler instruments used to control the cleanness of machined surfaces".  
Leningrad, 1959. 22 pp (Min Higher Educ USSR, Leningrad Inst of Aviation Instrument Building) (KL, No 12, 1959, 129)

KRUGLOV, A.S.

Development and experimental testing of the electromechanical equivalent for surface smoothness. Nauch.dokl.vys.shkoly; mash. i prib. no.1:236-241 '59. (MIRA 12:8)

1. Stat'ya predstavlena kafedroy "Tekhnologiya aviapriborostroyeniya i organizatsiya proizvodstva" Leningradskogo instituta aviatsionnogo priborostroyeniya.

(Electromechanical analogies)

**FILED IN BOOK IDENTIFICATION** **607/8597**

[illegible]

Dr. I. A. Savitskiy, Doctor of Technical Sciences, Professor; Tech. Ed.: A. Ya. Filizovskiy, Associate Ed., for literature on machines and instruments; Construction (buildings): N. Y. Polynovskiy, Engineer.

intended for scientific and technical personnel in the instrument industry.

concerned. The 32 articles deal with the present state and the outlook for the development of laboratory structure and measurement techniques in problems of scientific instrumentation, and methods of laboratories are discussed in the problems of the second section. The third section is devoted to the scientific presentation and the methods of scientific presentation of scientific results. The fourth section is devoted to the application of new techniques in program control, simulation, and diagnosis of systems. The fifth section deals with new measurement methods involving the use of microcomputers and large-scale, non-instrumental aspects of measuring and measurement techniques are also discussed in this section. In particular, an excellent reference occupies several pages.

located on the Princeton Museum of Ball Bearings Used in  
Gymnastic Instruments

and materials of the class in small-quantity spur coating used in berry systems

of course, not! candidates of technical sciences. Conditions for improving the stability of magnetic lecture instruments

and the U.S.A., Canada, and Technical Sciences. Also the  
Proceedings of the National Volume and their Application

**RECEIVED CITY OF CHICAGO**

**CHRISTOPHER, A. V. L. England. Application of Program Control to the Problem of Manpower.**

Consultants of Technical Sciences, Professor A.S. Burakov, Consultants of Technical Sciences, and B.A. Dobrovir, Consultants of Technical Sciences. Increasing the accuracy of measuring on automatic tables and widening their field of application

DATE: 11/11/2011 11:11:11 AM

Terminology, P. Du Boisier, Cold Presenting of Metals in Small-Left  
Production

# Production of Potable in Small-Town

**Barrymore, T. D., Engineer. Use of Ultrasonics in Treatment of**

**Ernest A. S. Englebert. Heir of California Assets.**

Gel'man, V. I., *Candidate of Technical Sciences*

# Engineering in the Facilitating of Small-Models Cars

## Practical Applications: The Technology of

cat 1/6

KONDUKOV, H.B.; KONILAYEV, A.N.; SKACHKO, I.N.; AKHROMENKOV, A.A.;  
KRUGLOV, A.S.

Studying the parameters of the motion of particles in a pseudo-  
fluidized bed by the radioisotope method. Inzh.-Fiz. zhur. 6 no.7:  
13-18 J1 '63. (MIRA 16:9)

1. Institut khimicheskogo mashinostroyeniya, Moskva i Institut  
neftyanoy promyshlennosti, Moskva.  
(Fluidization) (Radioactive tracers)

L 14420-63

EWB(k)/EWB(q)/EWI(m)/BDS AFFTC/ASD P-11 JD/HM/HW-2

ACCESSION NR: AP3003973

S/0089/63/015/001/0030/0037

AUTHOR: Ibragimov, Sh. Sh.; Voronin, I. M.; Kruglov, A. S.

TITLE: Effect of neutron irradiation on the structure and mechanical properties of alloy steels

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 30-37

TOPIC TAGS: iron neutron irradiation, nickel neutron irradiation, low-alloy-steel neutron irradiation, high-alloy-steel neutron irradiation, neutron-irradiated-iron property, neutron-irradiated-nickel property, neutron-irradiated-steel property, neutron-irradiated stainless-steel property, neutron-irradiated-alloy-steel property

ABSTRACT: The effect of neutron irradiation on the structure and mechanical properties of iron, nickel, 1Kh16MSB ferritic steel, 2Kh2TS, 2Kh6MSB, and 1Kh12S ferritic-pearlitic steels, and 1Kh18N9T and 1Kh18N14MSB austenitic steels in the temperature range 200-500C was investigated (see Table 1 of Enclosure for compositions). Specimens 3 mm in diameter and 25 mm long were annealed and then subjected to irradiation by hard neutrons (average neutron energy (E) was 0.38 Mev;

Card 1/3

L 14420-63

ACCESSION NR: AP3003973

30% of the neutrons had E of over 1 Mev) at 320—500C or soft neutrons (average E was 36 Kev; 10% of the neutrons had E of over 1 Mev) at temperatures below 255C. The irradiation had no effect on the grain size of iron and 1Kh16MSB steel. Irradiation of iron at 200—240C increased the tensile strength from 35.0 to 53.5 kg/mm<sup>2</sup> and the yield strength from 29.5 to 52.5 kg/mm<sup>2</sup>; corresponding increases for 1Kh16MSB steel were from 63.0 to 75.0 kg/mm<sup>2</sup> and from 44.0 to 66.0 kg/mm<sup>2</sup>. Elongation for iron dropped from 38.5 to 15.0% and for 1Kh16MSB from 26.0 to 8.0%. The absolute values of changes depended on temperature and irradiation dose. The most intensive changes took place at 200—240C and doses up to  $1.1 \times 10^{20}$  neutron/cm<sup>2</sup> for iron and up to  $2.8 \times 10^{20}$  neutron/cm<sup>2</sup> for 1Kh16MSB steel. A further increase in irradiation had no additional effect on mechanical properties, and the above doses can be considered as saturation limits. The strengthening defects caused by irradiation can be completely eliminated by annealing at 500C. The effect of irradiation on the mechanical properties of austenitic steel and nickel is shown in Table 2 of the Enclosure. It can be seen that complex alloy steels have a higher saturation limit than iron and low-alloy steels. The radiation defects can be eliminated by annealing at 430—650C. Irradiation of 2Kh24S, 2Kh6MSB, and 1Kh12S steels at 200—360C with an integral dose of  $8 \times 10^{20}$  to  $1.2 \times 10^{21}$  neutron/cm<sup>2</sup> increased the tensile

Card 2/3

L 14220 63  
ACCESSION NR: AP3003973

strength, yield strength, and hardness and decreased the elongation. Irradiation at 450—500C decreased the tensile and yield strength and resulted in an almost complete loss of ductility in the case of 2Kh2MS steel. Neutron irradiation had no effect on resistivity. The strengthening defects caused by irradiation at 200—240C can be eliminated by annealing at 350—575C. Irradiation with hard neutrons at 320—360C (integral dose,  $1.2 \times 10^{21}$  neutron/cm<sup>2</sup>) substantially changed the microstructure (dispersion and the form and size of the carbides) in 2Kh2MS and 2Kh6MST steels. Orig. art. has: 5 tables and 3 figures. 17

ASSOCIATION: none

SUBMITTED: 31May62

DATE ACQ: 08Aug63

ENCL: 02

SUB CODE: ML

NO REF SOV: 008

OTHER: 001

Card 3/83



... parameters of particle motion ...

... thermally ...

... motion, fluid mechanical ...

... analysis ...

... are obtained ...



AKHROMENKOV, A.A.; KUDOLOV, A.S.

Investigating the structure of a fluidized bed by the radioactive method. Khim. i tekhn. topl. i masel' 9 no.4:61-64. Apr '64.  
(MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke  
nefti i gaza i polucheniyu iksantyanovogo zhidkogo topliva.

L 44216-66 EWT(d)/EWT(1)/EWT(m)/EWP(f)/L-2 IT/JJ/DJ  
ACC NR: AP6018000(N) SOURCE CODE: UR/0413/66/000/010/0114/0115

INVENTOR: Mozalev, G. N. ; Kruglov, A. V.

ORG: none

TITLE: Circular servovalve for hydraulic systems, Class 47, No. 181930  
[announced by the Design Office of the State Committee for Machine Building at the State Planning Committee of the USSR (Konstruktorskoye byuro Goskomiteta po mashinostroyeniye pri Gosplane SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 114-115

TOPIC TAGS: hydraulic equipment, servomechanism, valve

ABSTRACT: An Author Certificate has been issued for a circular sliding servovalve for hydraulic systems with preselective control of the working part, a tracking bush, and an anchor. To improve the setting accuracy of the working part in intermediate positions over its entire travel range, which approaches 180°, the valve anchor is designed with an axial groove linked with diametrically opposed sectional slots

Card 1/2

UDC: 62-522.2.002.54

L 4216-66  
ACC NR: AP6018000

distributed along the axis of the valve; the intersecting planes of the slots approach a diametrical plane and form cut-off edges. To protect the valve anchor from radial stresses caused by the pressure of the liquid, the anchor is also provided with paired balancing slots diametrically opposed to the sectional slots. Orig. art. has: 1 figure. [KP]

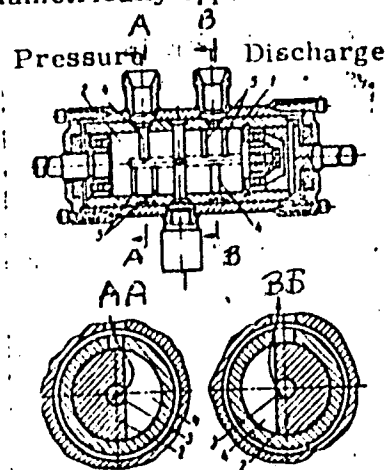


Fig. 1. Circular servovalve for hydraulic systems.  
1—bushing; 2—armature;  
3—axial duct; 4—sectional slots; 5—balancing slots;  
A—pressure;

SUB CODE: 13/ SUBM DATE: 20Mar64/

Card 2/2 JS

MAZALEV, G.N.; KRUGLOV, A.V.

The T65D-2 edging machine. Inr. prom. 14, no. 1:15-17 Ja '65.  
(MIRA 18:4)

FRUNLOV, A. Z.

Iron Founding

Cast negative plates for chill casting. Lit. proiz. No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 ~~1953~~ Uncl.

15.8112

33273  
S/062/62/000/001/014/015  
B101/B110

AUTHORS: Kotlyarevskiy, I. L., Shvartsberg, M. S., and Kruglov, B. G.

TITLE: Synthesis and oxidative polycondensation of 4,4'-diethynyl biphenyl

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 1, 1962, 184 - 185

TEXT: By hydrogenation of p-diacetyl biphenyl on skeleton nickel catalyst at 50-60°C, the authors obtained in almost quantitative yield:

$\text{CH}_3\text{CH}(\text{OH})-\text{C}_6\text{H}_4-\text{C}_6\text{H}_4-\text{CH}(\text{OH})\text{CH}_3$  (II), melting point 161.5 - 162.5°C. This compound

was dissolved in dioxane, and dehydrated by an  $\text{Al}_2\text{O}_3$  catalyst at 330°C.

The resultant, unpurified 4,4'-divinyl biphenyl, dissolved in  $\text{CCl}_4$ , was brominated:  $\text{CH}_2\text{BrCHBr}-\text{C}_6\text{H}_4-\text{C}_6\text{H}_4-\text{CHBrCH}_2\text{Br}$ . This tetrabromide had a melting

point of 204-204.5°C (under decomposition), the yield referred to II was 14 - 16%. The tetrabromide was dehydrobrominated by KOH to 4,4'-diethynyl biphenyl (yield 50 - 55%), melting point 163 - 164°C. This compound may

Card 1/3



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S/062/62/000/001/014/015

B101/B110

Synthesis and oxidative ...

be polycondensed in pyridine with CuCl as a catalyst, or in aqueous-alcoholic solution with CuCl-NH<sub>4</sub>Cl. The following structure is assumed for the unsoluble, yellow or orange-colored oligomer:

$$H \left[ C \equiv C - \text{C}_6\text{H}_4 - \text{C}_6\text{H}_4 - C \equiv C \right]_n H \cdot HCl.$$
 The oligomer does not explode when heated, and is poorly inflammable. The infrared spectra taken at Academician I. V. Obreimov's laboratory in the INEOS showed the bands for 1,4-substituted aromatic rings and for acetylene hydrogen. The presence of carbonyl groups due to partial hydration of the triple bond of the end group is also possible. There are 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: A. S. Hay, J. Organ. Chem., 25, 1275 (1960). X

ASSOCIATION: Institut nefte- i uglekhimicheskogo sinteza Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Petro- and Coal-chemical Synthesis of the Siberian Department of the Academy of Sciences USSR)

Card 2/3

Synthesis and oxidative ...

SUBMITTED: July 22, 1961

33273

S/062/62/000/001/014/015  
B101/B110

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X

KOTLYAREVSKIY, I.L.; SHVARTSBERG, M.S.; ANDRIYEVSKIY, V.N.; KRUGLOV, B.G.

Highly unsaturated polymers. Report No.7: Linear polynuclear  
diethynylarenes and their oxidative polycondensation. Izv.  
AN SSSR. Ser. khim. no.11:2032-2036 N '63. (MIRA 17:1)

1. Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya  
AN SSSR.

VLASENKO, V.M.; KRUGLOV, B.I.; ROZENFEL'D, M.G.; RUSOV, M.T.

Preparation and regeneration of zinc-chromium catalysts in the  
synthesis of alcohols. Khim.prom. no.1:1-6 Ja '61. (MIRA 14:1)  
(Alcohols) (Catalysts)

KRUGLOV, B. I.[Kruhlov, B. I.]; ZUBOV, V. I.; SHCHEPINOV, S. A.

Preparation of methyl alcohol by catalytic hydration of dimethyl ether. Khim. prom.[Ukr.] no.1:10-13 Ja-Mr '62.

(MIRA 15:10)

1. Lisichanskiy khimicheskii kombinat.

(Methanol) (Methyl ether)

VLASENKO, V.M.; KRUGLOV, B.I.; ROZENFEL'D, M.G.; RUSOV, M.T.; SICHKOV, P.V.

Change of properties of zinc-chromium catalysts in the course  
of isobutyl alcohol production. Khim.prom. no.4:244-248 Ap '62.  
(MIRA 15:5)

(Isobutyl alcohol) (Catalysts)

KRUGLOV, B.I. [Kruhlov, B.I.]; MIKHAL'OVA, Ye.F. [Mykhal'ova, Ye.F.]

Concentration and purification of expansion gases with magnesium  
ores. Khim. prom. [Ukr.] no.1:5-8 Ja-Mr '63 (MIRA 17:7)

1. Idrichanskiy khimicheskiy kombinat.

KRUGLOV, B.I. [Kruhlov, B.I.]; SOPOVA, Z.V.; KUSHNARENKO, G.I.  
[Kushnarenko, H.I.]

Ferromolybdenum catalysts for the oxidation of methanol in  
formaldehyde. Khim. prom. [Ukr.] no.3:3-8 J1-S '63.  
(MIRA 17:8)



KRUGLOV, B.I. [Kruklov, B.I.], MIKHAILOVA, Ye.F. [Mykhal'ova, E.F.]

Reduction of zinc-chromium catalysts in alcohol synthesis.  
Khim. prom. [Ukr.] no.4:15-19 O-P'63. (MIRA 17:6)

KRUGLOV, B.I. [Kruhlov, B.I.]; PAKHOMOVA, I.S.

Hydrogenation of crotonaldehyde, a by-product of acetaldehyde  
production. Khim. prom. [Ukr.] no.3:21 J1-S '64.

(MIRA 17:12)

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CIA-RDP86-00513R000826710019-7"

GOGIN, V.F.; KRUGLOV, B.I.

Advanced practices of the Lisichansk chemists. Kaim. prom. 40 no.9:  
641-642 S '64. (MIRA 17:11)

GOGIN, V.F. [Holin, V.F.]; ERUGLOV, B.I.

Advanced practices for the utilization of natural gas by the  
chemical industries. Khim. prom. [Ukr.] no. 1:67-69 Ja-Mar '65.

(MIRA 18:4)

KUCLOV, B.S.

Perforation of Jacquard cards according to an undeveloped design. Tekst.  
prom. no.2:51-54 F '63. (MIRA 16:4)

1. Nachal'nik gobelenovogo proizvodstva fabriki imeni F.E.Dzerzhinskogo  
Ivanovskogo soveta narodnogo khozyaystva.  
(Jaquard weaving)

KRUGLOV, B.I.

New multiposition key mechanism for card-punching machines.  
Tekst. prom. 25 no.7:38-40 J1 '65. (MIRA 18:8)

1. Zamestitel' nachal'nika gobelenovogo proizvodstva fabriki  
imeni Dzerzhinskogo, Ivanovo.



Knigka, P. .

Group method for the punching of Jacquard cards from an undeveloped pattern. Tekst. prom. 25 no.8:34-38 Ag '65. (MIRA 18:9)

1. Zamestitel' nachal'nika gobelenovogo proizvodstva fabriki imeni Dzerzhinskogo, Verkhne-Volzhskiy Sovet narodnogo khozyaystva.

SHABALIN, I.I.; KRUGLOV, E.A.; VAYSBERG, K.M.

Spectral determination of naphthalene and its derivatives in gas oil  
from catalytic cracking. Khim.i tekhn. i masel 7 no.11:25-28 N '62.  
(MIRA 15:12)

(Petroleum products)

(Naphthalene—Spectra)

VAYSBERG, K.M.; KRUGLOV, E.A.; KHABIBULLIN, M.F.; SHABALIN, I.I.

Using the gas-liquid chromatography method for studying the various  
types of naphthalene. Koks i khim. no.3:44-47 '63. (MIRA 16:3)  
(Naphthalene) (Gas chromatography)

KULAKOV, V.N.; VARFOLOMEYEV, D.F.; BONDARENKO, M.F.; KOTOVA, V.N.;  
AKHMETOV, I.G.; KOLYCHEV, V.M.; NOSAL', G.I.; KIVA, V.N.;  
PANKRATOVA, M.F.; KRUGLOV, E.A.; SHMELEV, A.S.; SHABALIN, I.I.;  
SHIRMUKHMETOV, O.A.; ISYANOV, I.Ya.; RATOVSAYA, A.A.;  
VAYSBERG, K.M.

Technology of the production of naphthalene from the refining  
products of eastern oils. Nefteper. i neftekhim. no. 4:30-33  
'64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut neftekhimicheskikh  
proizvodstv i ordena Lenina Ufimskiy neftepererabatyvayushchiy  
zavod.

KRUGLOV, E.A.; VAYSBERG, K.M.; ABRAMOVICH, Z.I.

Investigating the individual composition of the synthetic  
fatty acids of petroleum paraffins. Khim. i tekhn. topl. i  
masel 9 no.5:36-38 5 My'64 (MIRA 17:7)

1. Nauchno-issledovatel'skiy institut neftekhimicheskikh  
proizvodstv.

LEZHNEVA, N.A.; KRUGLOV, E.A.; Trinitala uchastiye RATOVSNEYA, A.A.

Polarographic determination of bicyclic aromatic hydrocarbons  
in petroleum products. Khim. i tekhn. topl. i masel 10 no. 11:  
58-61 N '65. (MIRA 1961)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimi-  
cheskikh protsessov.

US3R / General and Special Zoology. Insects. Harmful P  
Insects and Arachnids. Pests of Grain Crops.

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64016.

Author : Kruglov, F. G.

Inst : Not given.

Title : The Bases of Controlling the Grain Beetle.

Orig Pub: Zashchita rast. ot vredit. i bolezney, 1957,  
No 4, 24-25.

Abstract: In addition to the usual agrotechnical measures against the beetle, it is recommended harvesting the crop by a divided method and, when sowing winter wheat on winter wheat, safeguarding the semi-fallow soil by means of shallow-plowing the stubble immediately after harvesting, deep plowing in of the stubble in two weeks and double cultivation with harrowing to keep the field free from

Card 1/2

USSR / General and Special Zoology. Insects. Harmful P  
Insects and Arachnids. Pests of Grain Crops.

Abs Jour: Ref Zhur-Biol., No 14, 1958, 54016.

Abstract: woods. Measures of chemical control are:  
introduction into the soil of 40-50 kg/ha of  
12% BHC dust prior to planting in case of strong  
infestation of the field by the beetles; dust-  
ing the young crop (better, 2-3 times with inter-  
vals of 7-10 days) with 25-50 kg/ha of BHC, em-  
bedding it into the soil to a depth of 5 cm,  
thus insuring the elimination of 80-90% of the  
larvae of the beetle's younger generations. --  
A. P. Adrianov.

Card 2/2



1 14702-55 EPA(s)-2/EXT(s)/EWP(w)/EPF(n)-2/EWA(d)/EWP(t)/EWP(b) Pt-10/Pu-4

AUTHORS Kruglov, F. V.

Summary of the strength of the ...

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Card 1/4

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**KRUGLOV, G.**

For rhythmic work in an enterprise. Sov. profsoiuzy 2 no. 6:33-38  
Je '54. (MLRA 7:7)

1. Predsedatel' komiteta profsoyuzs zavoda "Uralelektroapparat"  
(g. Sverdlovsk).  
(Electric industries) (Trade unions)

KRUGLOV, G.A., inzh.

Rhythmic freight and train operations in railroad divisions. Zhel.  
dor.transp. 42 no.12:52-57 D '60. (MIRA 13:12)

1. Zamestitel' nachal'nika Donetskoy dorogi, st. Ilovayskoye.  
(Railroads--Freight)

20233

S/119/61/000/005/001/002  
D203/D306

1560

2008

AUTHORS: Kruglov, G.A., and Tarasevich, I.K.

TITLE: Diamond machining of clock parts

PERIODICAL: Priborostroyeniye, no. 5, 1961, 19-21

TEXT: The Institute NIIChasprom has issued a standard "ON-6-87-60" for the diamond cutters to be used for turning clock parts. NIIChasprom is at present working on the problem of diamond milling. It has been found that with a diamond cutter it was possible to obtain surfaces with a high 11-12 grade of smoothness. This grade of smoothness does not however guarantee clear reflecting qualities. Investigations have shown that surfaces obtained by progressive turning, using diamond cutters with tips rounded to 2-2.5 mm radius are uneven. This method of turning is not recommended. Satisfactory results were obtained with turnings using the "cutting-in" method. The cutter's geometry is shown in Fig. 1.

Card 1/6

# Diamond machining of clock parts

Fig. 1. Geometry of diamond clock cutter.

Legend: 1 - Part; 2 - m/min;  
3 - mm/op; 4 - cutter.

20933  
S/119/61/000/005/001/002  
D203/D306

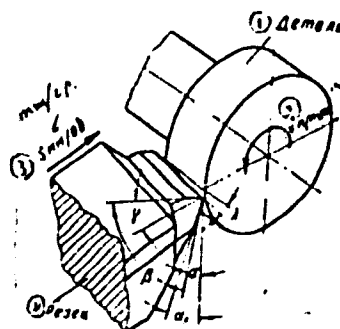


Fig. 1  
Рис. 1. Геометрия алмазного часового  
лезвия.

The values of the angles are:  $\beta = 90$  to  $105^\circ$ , the front angles  $\gamma = -10^\circ$  to  $-12^\circ$ , the rear angles  $\alpha = 2$  to  $4^\circ$ , the inclination of the cutting edge  $\lambda = 10$  to  $15^\circ$ . Only part of a width of 0.2 to 0.6 mm of the working face of the cutter may be set for cutting. The dia-

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S/119/61/000/005/001/002  
D203/D306

diamond machining of clock parts

mond cutters must be made to a high standard of accuracy. Cracks visible when magnified 500 times are inadmissible. Various forms of holders are used. One allowing for the regulation of the position of the cutting edge in a vertical plane is shown in Fig. 4.

Fig. 4. Diamond clock cutter with regulation of the position of the cutting edge in a vertical plane.

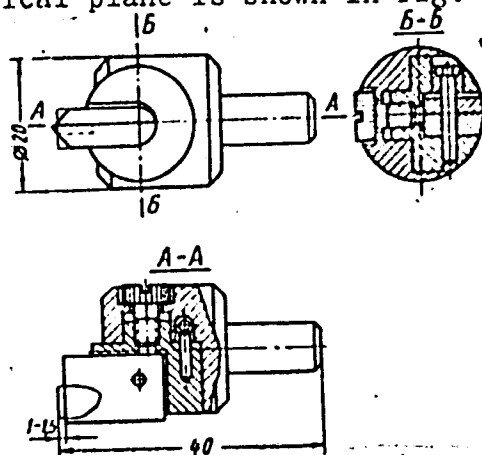


Fig. 4.

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Рис. 4. Алмазный часовый резец с регулировкой положения режущей кромки в вертикальной плоскости.

20933

Diamond machining of clock parts

S/119/61/000/005/001/002  
D203/D306

EX

The sensitivity of the diamonds to vibration and shocks require the use of rigid and well-balanced high-speed machine tools. Experiments show that turning velocities of 20 to 425 m per min. only slightly influence the quality of the machining. The depth of the cutting depends on the smoothness required. As a rule a pre-machined surface should not be cut deeper than 0.07 mm, while for machining in a single operation this may be lowered to 0.03 or 0.04 mm. Some recommended velocities for cutting various parts of clocks, machined on lathes used by clock-factories are given in the following table:

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20933

| Diamond machining of clock parts        |  |                  |                                    |                                 |
|---|--|------------------|------------------------------------|---------------------------------|
| S/119/61/000/005/001/002<br>D203/D306   |  |                  |                                    |                                 |
| Name of Ma-<br>chined Part              | Material                                       | Type of<br>Lathe | Velocity of<br>Cutting in<br>m/min | Depth in<br>mm per<br>Operation |
| Shell ring,<br>rim                      | Brass,   | S-57             | 200-300                            | 0.003 -0.004                    |
|   | Neusilber,<br>Aluminum<br>of the<br>grade AVCh | 1046             |                                    | 0.004 -0.0045                   |
| dial (en-<br>graving of<br>the numbers) | Brass  | S-49, S-175      | 95-125                             | 0.0035-0.0045                   |
|   | Tompack  | S-178, S-49      |                                    | 0.003 -0.004                    |
| Balance                                 | Brass  | "Tornos"         | 90-120                             | 0.004 -0.005                    |
|   | Neusilber                                      |                  |                                    | 0.003 -0.004                    |
|   | Beryll-<br>Bronze                              |                  |                                    | 0.004 -0.0045                   |
| Plugs                                   | Brass  | "Tornos"         | 20-100                             | 0.003 -0.004                    |

Card 5/6

20933

Diamond machining of clock parts

S/119/61/000/005/001/002  
D203/D306

When cutting parts containing lead, a layer of metal is often formed on the cutter. Lubrication, using mineral or vegetable oils, give good results in preventing this. In normal conditions from 15,000 to 1 million parts could be machined with careful handling before a diamond cutter would need re-turning. A cutter could be re-turned up to 6 times. There are 4 figures and 1 table.

Card 6/6

KRUGLOV, G.A., inzh.; KOROVIN, V.A., inzh.

The 59-P instrument for determining the degree of machinability  
of materials. Priborostroenie no.6:25 Je '61. (MIRA 14:6)  
(Testing machines)

KRUGLOV, G.A.

Organization of rhythmic operations on the main line. Zhel.dor.transp.  
43 no.10:37-45 0 '61. (MIRA 14:9)

1. Zamestitel' nachal'nika Donetskoy dorogi, g. Stalino.  
(Railroads--Management)

SECRET

1. The following information is being provided to you for your information only. It is not to be used for any other purpose. (MIRA 17/10)

KRUGLOV, G.A. (Donetsk)

Improved utilization of freight cars. Zhel. dor. transp. 47  
no. 11:12-17 N '65 (MIRA 19:1)

1. Zamentitel' nachal'nika Donetskoy doregi.

MAL'TSEV, Petr Mikhaylovich, prof., doktor tekhn. nauk;  
MIRDOV, V.A., prof., retsenzent; KRUCHININ, V.F.,  
inzh., retsenzent; KRUGLOVA, G.I., red.

[Technology of malt and beer; special course] Tekhno-  
logiya soloda i piva; spetsial'nyi kurs. Moskva, Pi-  
schevaia promyshlennost', 1964. 858 p. (MIRA 18:1)

26.2/21

Received from: *Reformatory Journal, Elektrostal', 1979, No. 16, p. 27.*  
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1959.

Mo. 16. p. 15.

## NOTES

Semichov, V. O., Chertov, Kh. T., Golovin, Yu. D., Shabashov, S. S.,  
Kozlov, O. P.

# THE

PHILIPPOLE, Tr. Berk. *malinastrol.*, s-da, 1957 (1958). No. 1, no. 69-91

1982). The main features of centrifugal superimposed with a steady-state active flow-pumping station of the main gas pipelines are: a variable number of operating points; the maintenance of a high efficiency at subcritical flow; starting by means of the compressor rated level; the utilization of gasless Pail; of a 900 mm and 200°C with a 2 cylinders and a 2-stage steam engine. The gas pipelines radial stages are atmospheric (up to 1.5 kg/cm<sup>2</sup>). The central (COP) part of the compressor consists of 6 stages; the first three having a low degree of reaction and the last with a 50% reaction. According to the experimental data the

**Case 1/2**

efficiency of the turbine must be not lower than 80%. A 10-atm compressor is of the type with a fixed pressure and with a relatively low coefficient of utilization of the turbine. The compressor has been designed on the basis of the results of the work of the Institute of Thermodynamics and Heat Engineering of the USSR Academy of Sciences. Its design is executed by a multi-stage plate air heater. A high-pressure recuperator (PS) is installed in the gas stream. The gas stream is cooled by the air stream, which maintains a constant pressure of the delivered air. Control, protection, and inspection systems permit the turbine start and stop of the installation by means of a program time relay.

**Y. S. P.**

Translator's note: This is the full translation of the original Russian abstract.

**Case 2/2**



SOV/124-58 4-4619

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr4 p137 (USSR)

AUTHOR: Kruglov, I. N.

TITLE: New Automatic Mechanized Installations for Determination of the Soil Compaction by the Static Loads (Novyye avtomekhanizirovannyye ustanovki dlya opredeleniya szhimayemosti gruntov staticheskimi nagruzkami)

PERIODICAL: Tr. Soveshchaniya po inzh.-geol. svoystvam gorn. porod i metodam ikh izucheniya. Moscow, 1957, pp 254-263

ABSTRACT: The article describes two new automatic installations for static soil tests in the test pits 1.5 - 1.8 meters deep. It describes the arrangement of the installations and presents a brief characteristic of details. The installations have been tested in field conditions.

S. A. Roza

1. Soils--Testing equipment

Card 1/1

KRUGLOV, I., kand.tekhn.nauk; GALITSKIY, V., inzh.; ZOBACHEV, N., teknik.

Automatic equipment for the field testing of soils.

Ger. i sel'.stroi. no.5:18-20 My '57.

(MIRA 10:10)

(Soil mechanics)

KRUGLOV, I.N., dotsent, kand.tekhn.nauk

Ground waters of a watershed in the Zaporozh'ye Steppe and the dynamics of its level ~~are~~ caused by industrial structures.

Nauch. zap. MIIVKH 19:308-342 '57.

(MIRA 15:2)

(Zaporozh'ye- Water, Underground)

KRUGLOV, I.N.; ZOBACHEV, N.M.; GALITSKIY, V.G.; ROZENTAL', A.I.

Automated unit used for testing soils by means of test loads.

[Trudy] NIIOSP no.33:84-99 '58.

(MIRA 11:9)

(Testing machines) (Soil mechanics)